CALIFORNIA STATE DEPARTMENT OF PUBLIC HEALTH
GILES S. PORTER, M.D., Director

Weekly Bulletin

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Kern County Issues Health Report

The Kern County Health Department, of which Dr. Joe Smith is County Health Officer, has issued its annual report for 1932. The report is printed in attractive form and indicates the accomplishment of a large amount of work in protection of the public health. Following is a short review of the report:

I. Organization and Personnel

In organization the Kern County Health Department is very similar to the regular "full-time" health unit, with the exception that the health officer is part-time and the assistant health officer is full-time, instead of vice versa. This plan has proved of great value from the standpoint of cooperation with the welfare department and the general hospital, and has proved more satisfactory in some localities than the more conventional health unit which is prone to work entirely alone without the cooperation of the other county departments and with a great amount of duplication of effort * * *

* * * The public health laboratory is located in the county hospital and thus saves the expense of equipping two separate units to care for the work of the two departments. * * *

II. Financial Support

The county health budget is a little more than one-half of one per cent of the total county expenditures which are approximately six and one-half millions of dollars, or .576 per cent. "* * * In Kern County $0.47 per capita is spent for public health * * *"

III. General Activities

Under immunization for diphtheria for 1932, the school districts are tabulated with the percentage of diphtheria immunizations obtained. A number of school districts show one hundred per cent immunization. Total for the county shows that 76.06 per cent of all children in the schools have been immunized for the prevention of diphtheria.

On well baby conferences the report reads:

"During this year, eight well baby conferences have been established at centrally located places. * * *"

Under the crippled children program, we learn that Kern County has made provision to care for its own crippled children, and the report reads in part:

"* * * Under the present system, we can budget the required funds and know quite definitely what the cost will be for any year. * * *"

IV. Divisional Activities

Considerable work in sanitation has been done. Under "Milk Inspection" the report reads:

"This department has been approved as a Grade 'A' territory by the State Department of Agriculture since August, 1928. Our first rating was 90.1 per cent, and our last rating was 95.7 per cent. * * *"

Under the paragraph on tuberculosis control work, milk inspection, the report reads:

"Tuberculosis control work in this county is probably as far advanced as that of any other county in the State, as shown in our recent test by the State department, of 2.75 per cent reaction. * * *''

Under "Public Health Nursing" it is stated:

"Because of the fine cooperation of the county school department, the nursing service has been built around the county schools. This is perhaps one of the best methods, since most of the communicable diseases occur in the school population. * * *''

"Tuberculosis work is one of the major divisions of the public health nursing program. This was begun in the schools with the weighing and measuring of the children. * * * Chest clinic conducted by Dr. Schaper, superintendent of the Tuberculosis Sanatorium and Preventorium at Keene. * * * All patients remaining at home are called on at intervals and check up as to their progress and general condition, and their need of reexamination. * * *''

Dental:

"The Division of Dental Hygiene submits its first annual report of the Education and Preventive Dental Clinic in the public schools of Kern County from March 21, 1932, to January, 1933, exclusive of the twelve weeks in summer. Five thousand two hundred and twenty-nine children were instructed in the proper home care of the mouth by means of classroom talks and demonstration. * * *''

V. RECOMMENDATIONS

All worth while enterprises must look forward to what can be accomplished in their field more than backward to what they have already done. To this end we submit the following suggestions, which we feel are in the interest of efficiency, economy, and good public health:

1. Further unification of the public health service now being rendered in the county.
2. Vital statistics pertaining to births and deaths should be on file in the Health Office. The Bureau of Vital Statistics for the county should be transferred to the office of the County Health Department.
3. Provision of facilities for the inspection of food supplies and the examination of food handlers.

HEALTH OFFICERS NEWLY APPOINTED

Mr. Donald M. Martin has been appointed City Health Officer of Loyalton, Sierra County, to succeed Mr. George L. Snyder.

Dr. R. G. Atkinson has been appointed City Health Officer of Colfax to succeed Dr. D. M. Kindopp.

It is better for a man to maintain himself in good health than to load himself with learning.—Arnold Bennett (1920).

RESEARCH IN CONTROL OF SMALLPOX

Difficulty is often experienced in making a correct diagnosis of smallpox and the absence of any laboratory test which could clinch a diagnosis has always been a severe handicap in dealing with this disease.

Research workers in England have now discovered a new test for the diagnosis of smallpox, and the results of their work and a description of their methods have been published by the British Medical Research Council, under the titles of "Diagnostic Value of the 'Vaccinia Variola' Flocculation Test" and "Further Investigations on the Variola-vaccinia Flocculation Reaction."

THE RATIONALE OF THE VACCINIA FLOCCULATION TEST

The rationale of this test as used for the diagnosis of smallpox is based on the view that the virus of vaccinia (cowpox) is essentially the same as that of smallpox. The test is performed by adding to the serum of a rabbit which has been vaccinated, an extract of the crusts of the smallpox patient, when a floccular precipitate forms on incubation. The test is specific. Crusts from chicken pox and other skin disease do not show any floccular precipitate. The floccules are formed by the union of the antigen (smallpox virus) with the antibodies in the serum of the vaccinated rabbit, and the test is thus comparable with the serological tests used in the diagnosis of other diseases. The preface to the first report sums up the advantages such a test will give in controlling smallpox in the following words:

"It is obvious that for the successful control of infectious disease early and accurate diagnosis has paramount importance. When an early case of smallpox is mistaken for chicken pox the consequences may be disastrous, as more than one recent incident has shown. In a population like our own, which is incompletely immunized by vaccination against smallpox, an efficient system of notification becomes a preventive measure of incalculable importance. Efficient notification is impossible without early and accurate diagnosis. It is in the aid that it gives to this that the present report upon the practical use of flocculation tests will have its importance for preventive medicine."

The second report published gives further technical details about the methods of performing the diagnostic test. Further valuable information has, however, been obtained, which the Medical Research Council justifiably claims as "breaking new ground in the study of immunity against smallpox." The second report deals with—(1) The action of antivaccinia serum upon vaccinia virus in vitro; (2) the use of antivaccinia serum in giving passive protection against infection; and (3) the production of immunity by the administration of vaccinia virus exposed to antivaccinia serum.

THE ACTION OF ANTIVACCINIA SERUM UPON VACCINIA VIRUS IN VITRO

The experiments of the investigators showed that immune sera, when mixed with vaccine virus, inactivate the latter. Vaccine which had been mixed with immune serum, when inoculated into the skin of a susceptible animal, had no effect. Having demonstrated that immune sera obtained from a vaccinated animal could neutralize the virus in a test tube, the next step was to try if the immune sera injected into an animal could protect it against inoculation with vaccinia virus.

FLOCCULATING SERUM PRODUCES PASSIVE IMMUNITY

Animals receiving a protective inoculation with flocculating serum were found immune to infection by vaccinia when introduced into the skin, into an organ, or into a vein. This experiment suggests that it may eventually be possible to passively immunize contacts of smallpox against the disease. The great value of this procedure will be seen when the following facts are considered: Frequently a smallpox case is not detected or diagnosed for several days after the onset of the disease. If a smallpox contact is vaccinated in the first three days after exposure to infection, he can be protected against the disease. This is because the incubation period of vaccinia is shorter than that of smallpox, and the vaccination therefore "takes" and the contact becomes immune before smallpox has time to develop. After a period of three days, however, it is too late to protect the contact against smallpox by vaccinating him. There is now hope that contacts who have been exposed to infection for more than three days can be passively protected by an injection of flocculating serum. This procedure, if found successful in practice, would result in saving many lives, and, as it would prevent the development of new cases, each case being a possible source of infection for a crop of new cases, it would also be a valuable means of limiting the spread of the disease.

If passive immunity can be given by a dose of flocculating serum, there seems reason to believe that human serum obtained from a recently successfully vaccinated human being would be similarly effective. In the treatment of cases of smallpox it would also be worth trying the effect of doses of immune human serum obtained from a donor who had been recently and successfully vaccinated.

PRODUCTION OF IMMUNITY WITH VACCINIA SENSITIZED BY EXPOSURE TO FLOCCULATING SERUM

A very important result of the research work was the discovery that vaccinia virus sensitized by exposure to flocculating serum can give, on inoculation, a high degree of immunity although it does not produce skin lesions. Thus it seems possible that in the not distant future this method of vaccination may be successfully introduced. Much of the popular antagonism to vaccination is caused by the marked inflammatory skin reaction which results from the present method of vaccination by scarification. Though the discomfort of a swollen and painful arm is a small and necessary price to pay for immunity from such a dread disease as smallpox, nevertheless a method which can give immunity without giving rise to skin lesions is to be welcomed.

GENERAL CONCLUSIONS

(1) Investigation of material from cases of variola major, variola minor, vaccinia from man and other animals, and from other conditions, corroborates unequivocally that "the variola-vaccinia flocculation" reaction is specific, and is of considerable diagnostic value.

(2) Immune flocculation serum of high titre definitely confers passive immunity, and in some instances the activity of such sera in this respect is so great that 1 c.c. of serum per kilo. of body weight may protect against a very large multiple of the minimum infecting dose administered intradermally, by scarification, or even by the intratesticular route.

(3) Virus "sensitized" by exposure to flocculating serum, although devoid of dermal infectivity, will, when administered subcutaneously to rabbits (average weight 2 kilos.) in doses corresponding to 0.001 gramme of dried lapine, confer solid immunity.

NEW LABORATORY POLICY ADOPTED

At its regular meeting, held April 22, 1933, the State Board of Public Health adopted the following outline of general policies relating to the service provided by the State bacteriological laboratory:

1. No specimens will be received at all from cities or counties having an approved public health laboratory.

2. Blood specimens to be examined as a check on treatment will not be received excepting for indigent cases, and from communities not excluded by 1.

3. Blood specimens will be received for purposes of diagnosis only from communities not excluded under paragraph 1.

4. The name and post-office address of every Was-

sermann patient must accompany the sample, and the question as to indigency must be answered.

5. The chief of the laboratory is authorized to mail a notification to each patient advising him that no charge is made by the State for the examination.

6. Blood specimens will be accepted from all State institutions and county hospitals without reservation other than that county hospitals receiving pay patients may send specimens only from patients who do not pay, so certifying on the form accompanying the specimens.

7. The Chief of the Bureau of Laboratories is authorized to refuse service to physicians who do not comply with the above requirements.

MORBIDITY*

Diphtheria

42 cases of diphtheria have been reported, as follows: Fresno County 1, Imperial County 1, Kern County 1, Bakersfield 2, Los Angeles County 3, Compton 3, Glendale 1, Los Angeles 19, South Gate 1, Riverside 1, San Bernardino County 1, San Diego 4, Santa Clara County 2, San Jose 1, Fillmore 1.

Chickenpox

618 cases of chickenpox have been reported. Those communities reporting 10 or more cases are as follows: Alameda 11, Berkeley 23, Oakland 53, Kern County 25, Los Angeles County 33, Glendale 12, Los Angeles 67, Pomona 11, Ontario 12, San Diego 46, San Francisco 66, San Joaquin County 32, Manteca 10, Stockton 16, Santa Barbara 14, Sonora 10.

Measles

1229 cases of measles have been reported. Those communities reporting 10 or more cases are as follows: Oakland 15, Los Angeles County 159, Alhambra 15, Culver City 19, Glendale 47, Huntington Park 16, Long Beach 70, Los Angeles 585, Pasadena 47, San Marino 12, Santa Monica 59, Sierra Madre 29, South Pasadena 15, Orange County 10, Santa Ana 11.

Scarlet Fever

165 cases of scarlet fever have been reported. Those communities reporting 10 or more cases are as follows: Oakland 13, Los Angeles County 19, Los Angeles 41.

Whooping Cough

639 cases of whooping cough have been reported. Those communities reporting 10 or more cases are as follows: Alameda County 11, Alameda 24, Berkeley 44, Oakland 31, Fresno 25, Los Angeles County 30, Glendale 16, Los Angeles 67, Ross 11, Merced 35, Sacramento 83, San Diego 21, San Francisco 78, Shasta County 11.

Smallpox

63 cases of smallpox have been reported, as follows: Los Angeles County 6, Los Angeles 45, San Gabriel 1, Lompoc 1, Santa Clara County 1, San Jose 6, Ventura County 3.

Typhoid Fever

7 cases of typhoid fever have been reported, as follows: Claremont 1, Los Angeles 2, Sacramento County 3, San Francisco 1.

Meningitis (Epidemic)

4 cases of epidemic meningitis have been reported, as follows: Kern County 1, Los Angeles 1, Sunnyvale 1, Vallejo 1.

Leprosy

One case of leprosy from Los Angeles has been reported.

Poliomyelitis

3 cases of poliomyelitis have been reported, as follows: Monterey County 1, San Bernardino 1, San Francisco 1.

Rocky Mountain Spotted Fever

One case of Rocky Mountain spotted fever from Lassen County has been reported.

Undulant Fever

2 cases of undulant fever have been reported, as follows: Los Angeles 1, Orange County 1.

Tularemia

One case of tularemia from Hanford has been reported.

Coccidioidal Granuloma

3 cases of coccidioidal granuloma have been reported, as follows: Los Angeles 1, San Gabriel 1, Tulare County 1.

Septic Sore Throat

2 cases of septic sore throat from San Francisco have been reported.

Psittacosis

One case of psittacosis from Arcadia has been reported.

Trichinosis

One case of trichinosis has been reported from Del Norte County, the source of infection being in Oregon.

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* From reports received on April 24th and 25th for week ending April 22d.

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